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ABSTRACT

Adult basic education (ABE) teachers, supervisors, and administrators are furnished with guidelines on the use of linguistic techniques for basic reading instruction, (Levels 1 and 2), the formation of student skills in listening, speaking, reading, and writing (Levels 1, 2, 3), and mathematics teaching at all three levels plus the high school level. Suggestions on student placement, class activities, allocation of time, and instructional materials are offered. Aims of ABE are set forth in the context of typical reasons for participation, potential benefits, and tasks of everyday life. It is recommended that tasks in ABE classes be chosen and ABE students grouped according to needs and motivation as well as ability. (ly)

ED034148

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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teacher's suggestions for teaching adults in adult basic education

Texas Education Agency
Austin, Texas

August
1969

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3. Non-discriminatory use of facilities.

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INTRODUCTION

There is a growing need for educated people in every field of endeavor. Our concern here is with adults who have not had the opportunity to attain a good foundation in the basic skills of reading, communication, and arithmetic. They are handicapped not only in being unable to obtain challenging work but also in being frustrated in their personal growth. These suggestions have been prepared for teachers, supervisors, and administrators in developing instructional programs for adults. The contents include suggestions in reading, arithmetic, and communication. The authors decided there is no "pure" method for teaching adults and that a realistic approach should be attempted. The material should be adapted to local student needs.

These suggestions were prepared at the University of Houston (Downtown School) in June, 1969, by experienced Adult Basic Education teachers selected from various geographical regions of the State. Funds for its development were provided by the Texas Education Agency, Division of Special Adult Programs.

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AIMS OF ADULT BASIC EDUCATION

These aims of Adult Basic Education (ABE) are compiled with the beginning teachers of adults in mind. These aims are based on the basic needs of most adults entering Adult Basic Education in hopes that these needs are fulfilled.

These aims are the result of the efforts of several ABE teachers representing various geographical areas of the State.

The aims of ABE are to provide the necessary educational elements so that the individual adult is able to:

1. Function as an individual in a complex and constantly changing society
2. Develop constructive self-direction
3. Meet daily problems of living
4. Practice habits of sound physical and mental health
5. Function as a family member
6. Engage in wholesome family life experiences
7. Accept parental responsibility
8. Function as a community member
9. Shape the course of political and economic events through the practice of democratic principles
10. Exercise moral, spiritual, social, and ethical practices
11. Assume his share of community responsibility

Once the adult is able to perform these functions, he will be an asset to his society, thus meeting our basic aims.

Group Members
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WHY DO ADULTS ENTER ABE?

Generally adults enter ABE for individual, short-range reasons. These reasons are based on recognized inabilities that prevent them from functioning at a desired level in their society. These points were observed by oral and written tests, and by experienced teachers of adults.

Adults enter ABE class because they would like to be able to:

Write their names and simple sentences

Converse in English

Attain citizenship

Improve economically, get a better job, count money, figure wages, and keep simple records

Read notes from school, traffic signs, grocery advertisements, letters, and guides for television

Fill out forms

Use the telephone

Learn to work puzzles

Get away from kids (and husband)

Change daily routine

Socialize (to learn to get along better with people)

To pass entrance exams (service, college, jobs, etc.), pass GED Test

Get a driver's license

Help their children (with homework)

Improve social status

Hold jobs they have

Qualify for special training programs

Learn to sew

Learn to type

Learn first-aid and Civil Defense information

Learn about home economics, arts, and crafts, and basic arithmetic

Ask for information and use public facilities

Obtain information for welfare and social security

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WHAT CAN ADULT BASIC EDUCATION DO FOR ADULTS?

ABE enables some adults to seek still higher levels of educational, economic, and social accomplishments. Adults are able to realize small goals in life and look for new and better ways of fulfilling their ambitions. After attending ABE class, many adults will be able to:

Obtain better jobs

Obtain better homes

Realize the importance of education

Enter training schools such as Manpower Development Training, Vocational and Technical schools, and Special Projects for job training.

Obtain a driver's license

Obtain U.S. citizenship

Enter advanced education

Enter the armed services

Become community leaders and participants

Help recruitment for ABE

Improve their self-image

Assist in public school education as a teacher's aid

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TASKS FOR ADULT LIVING

It would be difficult to build a house without a plan designating a set of tasks to be completed.

ABE, like house building, must have a basic foundation or starting point and steps (skills) leading toward completion (knowledge).

The following tasks, and the skills required to perform them have been compiled as a guide for ABE instructors and should not be considered as a complete list of all necessary tasks for adult living. Below are listed some of the tasks for living all adults must be able to perform:

I. Utilize public services
   - A. Police - should be called in case of an auto accident
   - B. Health - county health clinic can be contacted in case of communicable disease
   - C. Welfare -
   - D. Legal - The county attorney should be contacted when criminal offense is suspected (child abuse).
   - E. Employment - Texas Employment Agency
   - F. Fire -
   - G. Civil Defense -
   - H. Ambulance -
   - I. Red Cross - can be used in case of flood damage
   - J. Planned Parenthood -

II. Fill out forms
   - A. Applications
     1. Job
     2. Credit
     3. Driver's License
     4. Social Security
   - B. Voter Registration

C. Order blanks

D. Money Orders

E. Income tax

F. Insurance

G. Birth Certificate (State Bureau of Vital Statistics)

III. Consumer education

A. Budgeting

B. Wise buying

C. Buying insurance - reliable insurance agent should be used

1. Life

2. Car

3. Hospitalization

4. Fire

D. Installment buying

1. Loans - best loan sources (banks, building & loan associations)

2. Interest - Teach how to find the effective interest on a loan.

IV. Everyday law

A. Taxes

B. Building codes, zoning

C. Traffic

D. Wills

E. City ordinances

F. Individual rights

V. Safety and Health

A. Reading labels

B. First Aid

1. Burns

2. Poisons

3. Cuts, bruises, sprains, fractures

C. Drug education

D. Safety

1. Highways - seat belts, tires

2. Water - life jacket, proper number of passengers in boat.

E. Nutrition - balanced diet

F. Gromming - cleanliness, appearance (hair, nails)

G. Child care and development

VI. Citizenship participation

A. School - P.T.A.

B. Church - Bible school

C. Community - civic clubs, fund drives

D. Political - local political parties, precinct & county conventions

E. Accepting responsibility

1. Property - maintenance

2. Job - conscientious

3. Family - good provider

4. Social - church, school, clubs

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PART I

READING

LINGUISTIC TECHNIQUES

FOR

TEACHING READING

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PREFACE

The complexity of teaching reading makes it imperative that a teacher of reading not rely solely on one single approach or technique. There is no "pure" method in teaching reading; therefore, various methods or techniques should be tried in order to determine which one best accomplishes the desired goal - teaching the adult to read. All approaches have advantages and disadvantages.

Linguistics is not a method of teaching reading. It is the scientific study of language. This scientific study - the nature of sounds as used in communication, the structure of words, and the general structure of a language can help improve methods of teaching reading.

Since linguistics is the study of a language, it has its own terminology but no attempt will be made to define such. The main purpose of this section is to encourage teachers to become aware of the strudture of the language and to develop words by substituting consonants, blends, and digraphs.

Since commercial materials using the linguistic technique, are limited at the adult level of interest, it is hoped that teachers attempting this technique will develop lessons with students. Teachers can motivate adults to contribute areas of interest as a "take-off" point for developing materials for reading.

This guide was developed in such a manner that a teacher may develop a reading program in a sequential manner from simple tasks to difficult tasks. A pre-requisite to this technique is that the adult student must first learn the complete alphabet in such a manner that he is able to recognize any letter out of sequence. After he has mastered this skill, the reading process begins. He learns to decode by becoming familiar with word patterns (structure of the language) in combination with letters of the alphabet to form words. Procedures for teaching reading are indicated in the portion titled "Beginning Reading (Decoding) Through Linguistics" of this guide. One advantage to this technique is that the adult is not burdened with learning generalizations used for decoding in other techniques

and which seldom apply. The first lessons are difficult to develop because of the limitations in the presentation of word patterns. As the student progresses and learns more word patterns, the teacher is able to construct material which becomes more meaningful and lengthy in content and geared to the interest of adults in the many areas specified in meeting the needs of adults.

Upon completion of this program, the adult should possess the tools of reading required to make the transition to any other reading program.

LINGUISTIC TECHNIQUES TO READING

The Skills Program for Level I

The Ability to Learn the Alphabet (8 hrs.)	Suggested Materials:	My Alphabet Book Charles E. Merrill Pub. Co. Columbus, Ohio 43216

I. Vocabulary building -

book	left	square	mark	together
front	right	capital	row	both
back	page	small	sample	pencil
top	numbers	trace	same	read
bottom	line	write	pair	picture
alphabet	difference	draw	test	box
letters	alike	circle	column	block
		direction		match

II. Skills to be taught --

1. Recognition of letters out of sequence (Main goal)
2. Eeft to right progression.
3. Likenesses and differences (Visual discrimination)
4. Auditory discrimination.
5. Tracing letters (Kinesthetic method)
6. Writing manuscript (Lower and upper case letters)
7. Listening training
8. Following directions.

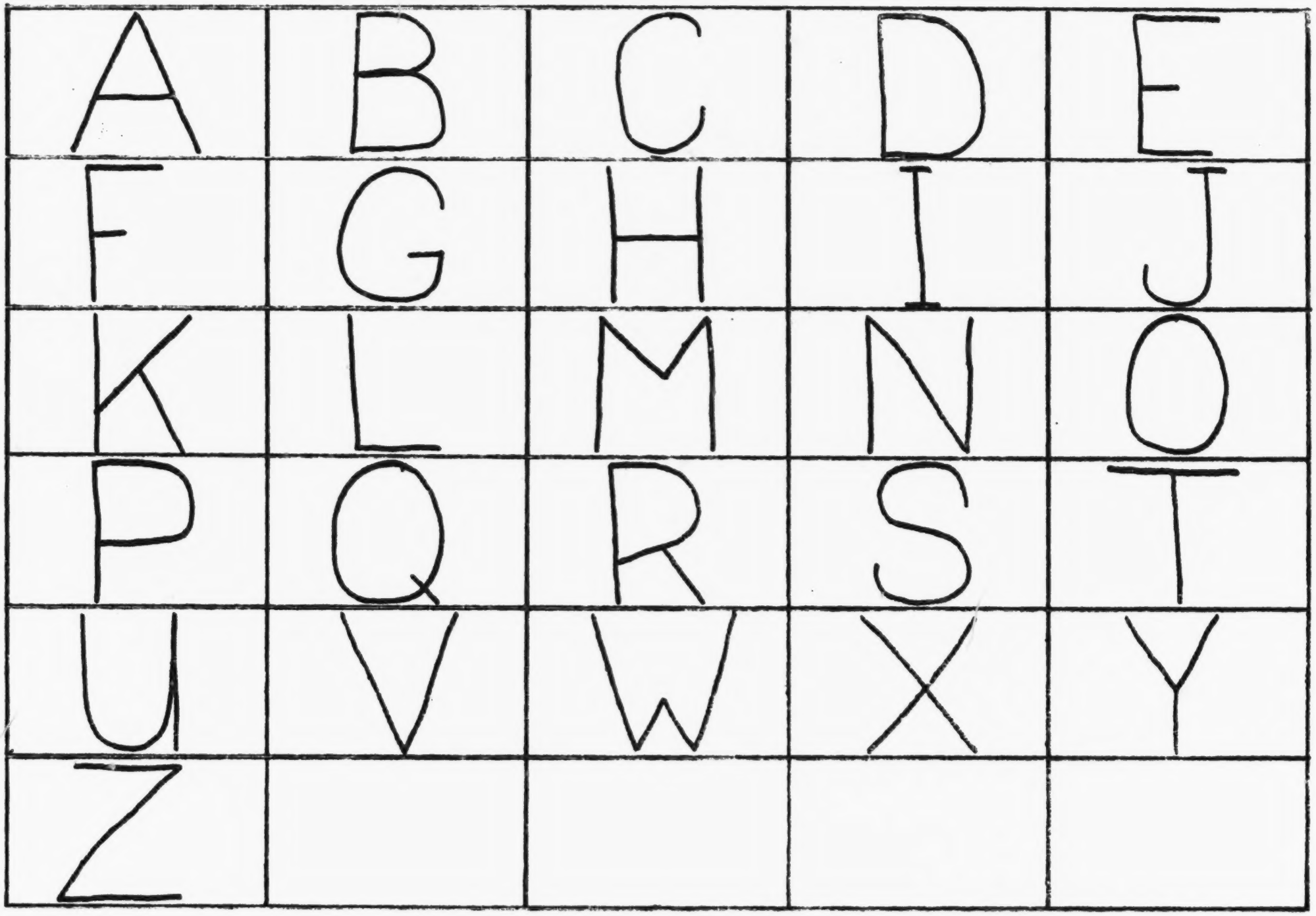
III. Suggested activity

1. Alphabet
2. Reading left to right with two letters.
3. Reading with three letters.
4. Reading with four letters.
5. Circle the samples in which the letters are the same.
6. Draw line to matching samples with one, two, or three letters.
7. Letter recognition exercises.
8. Matching single letters.
9. Review letter recognition (alphabet flash cards).
10. Review letter discrimination.
11. Finger writing for letter recognition and discrimination.
12. Reinforcement of alphabet sequence.
13. Capital and lower case letters with alternating examples.
14. Circle the samples of capital and lower case of the same letter.
15. Tracing lower case letters.
16. Review of capital and lower case letters.
17. Tracing review of lower case letters.
18. Circle test on letter recognition and discrimination using words.

    Direction: Circle 1. A; 2. B; 3. M; 4. P; etc.

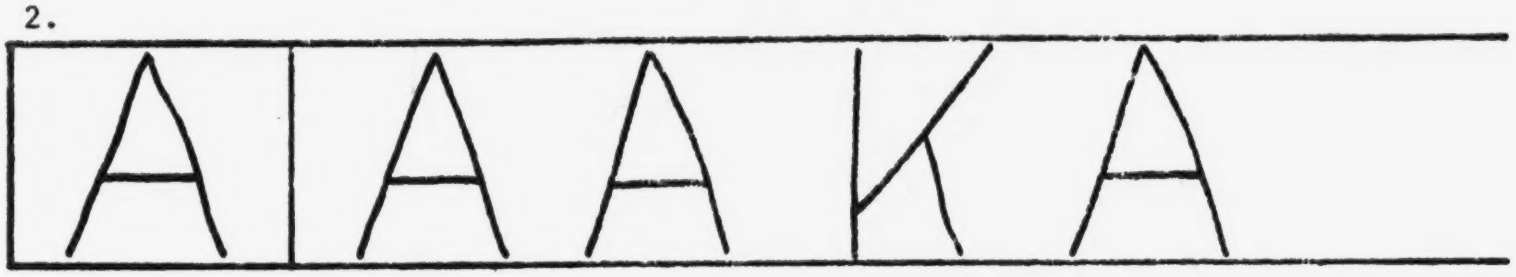
TEACHING THE ALPHABET - EXAMPLES

1.



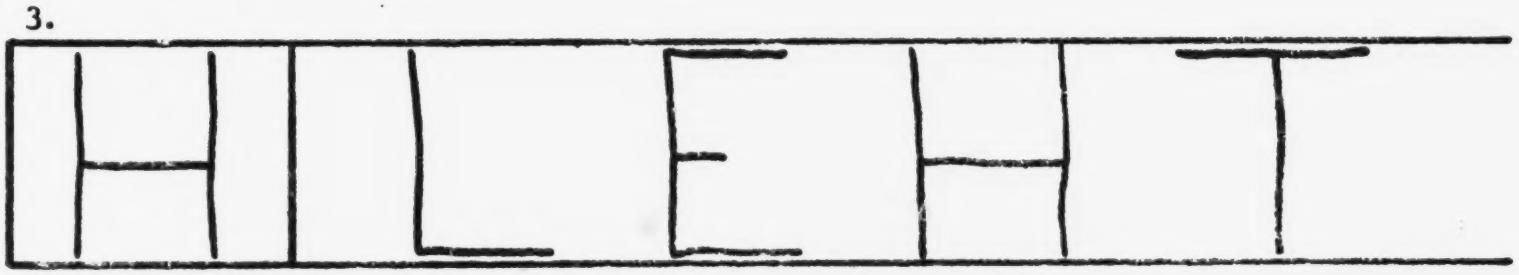
DIRECTIONS: Point to the letters on this page and name in order of sequence. This page should be used at least one time in each session until all letters are known.

2.



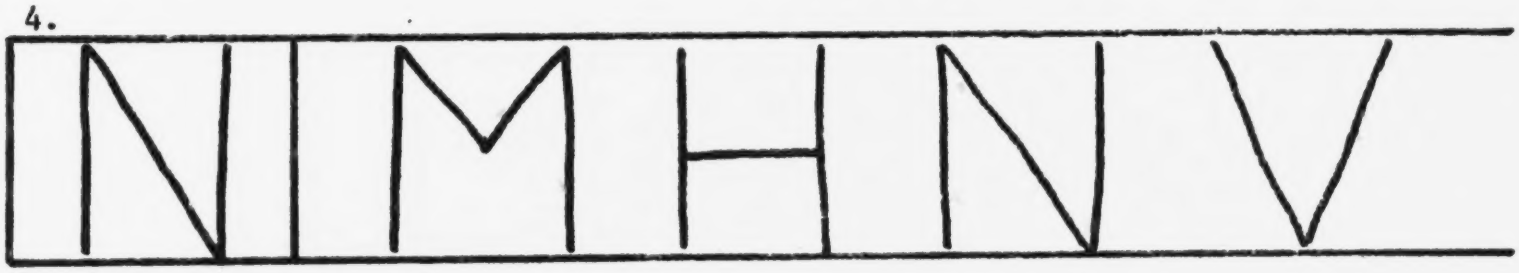
Directions: Reading left to right with two letters.
Circle the letter that is different from the letter in the box.

3.



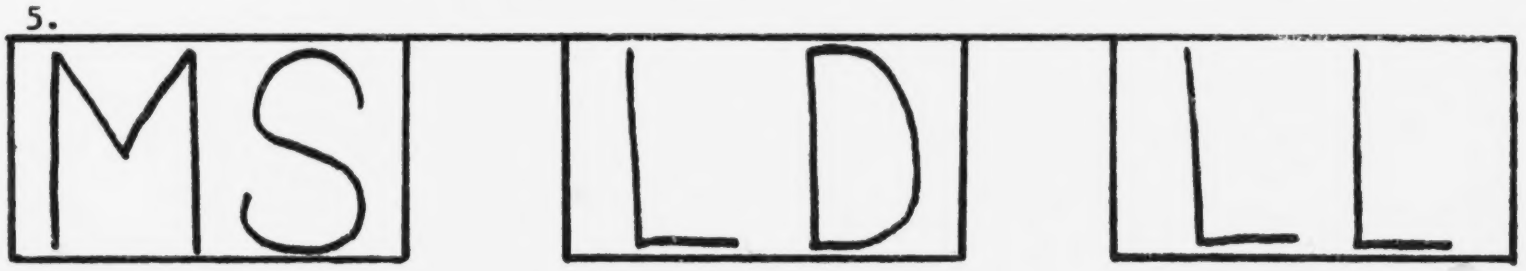
Directions: Reading left to right with three letters.
Circle the letter that is different from the letter in the box.

4.



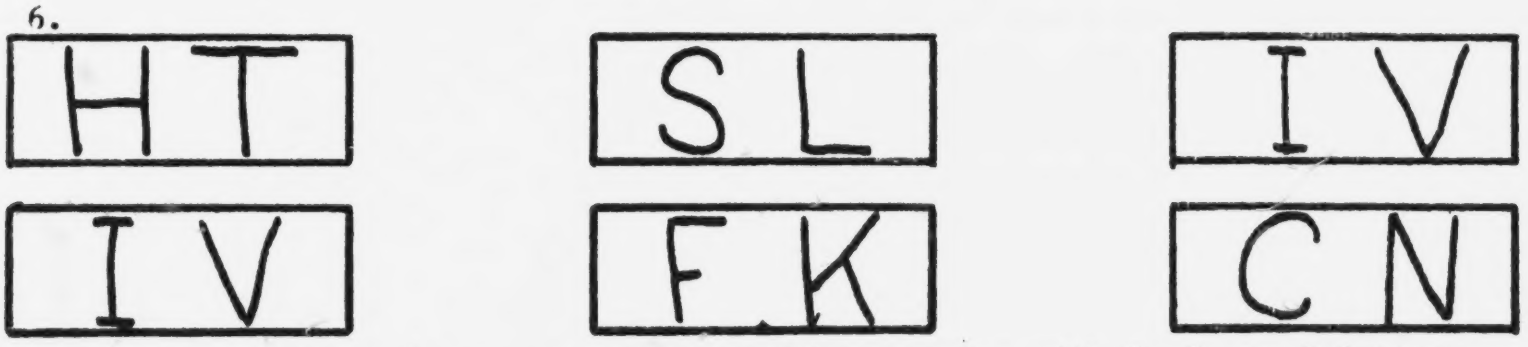
Directions: Reading left to right with four letters.
Circle the letter that is different from the letter in the box.

5.



Directions: Circle the samples in which letters are the same.

6.

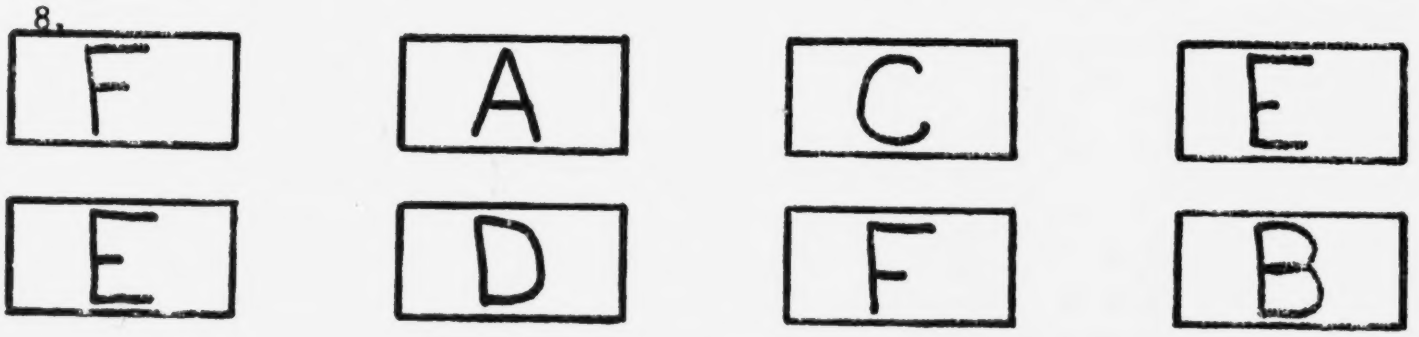


Directions: Draw a line connecting matching samples with 1, 2, or 3 letters.

7.

Directions: Review letter discrimination.
Circle the letters like the letter in the box.

8.

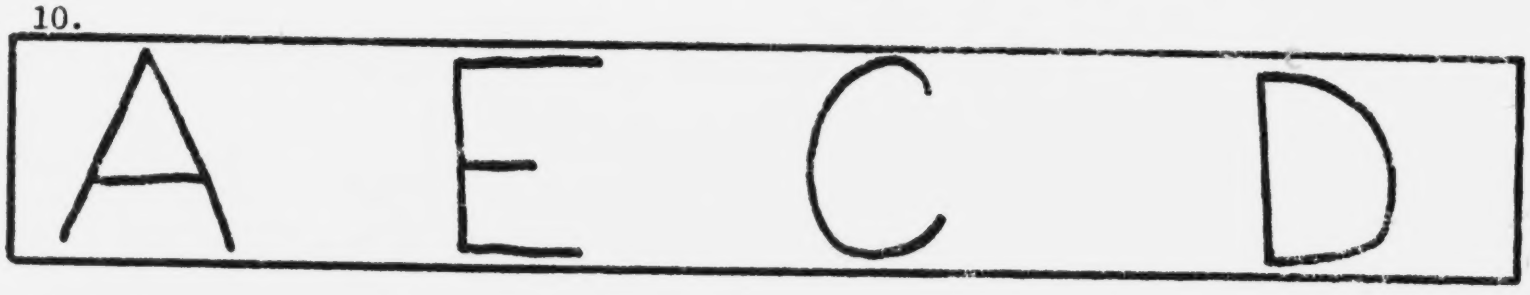


Directions: Draw a line connecting matching single letters.

9.

Directions: Review letter recognition. Use flashcards.
Circle the letter like the letter in the box.

10.

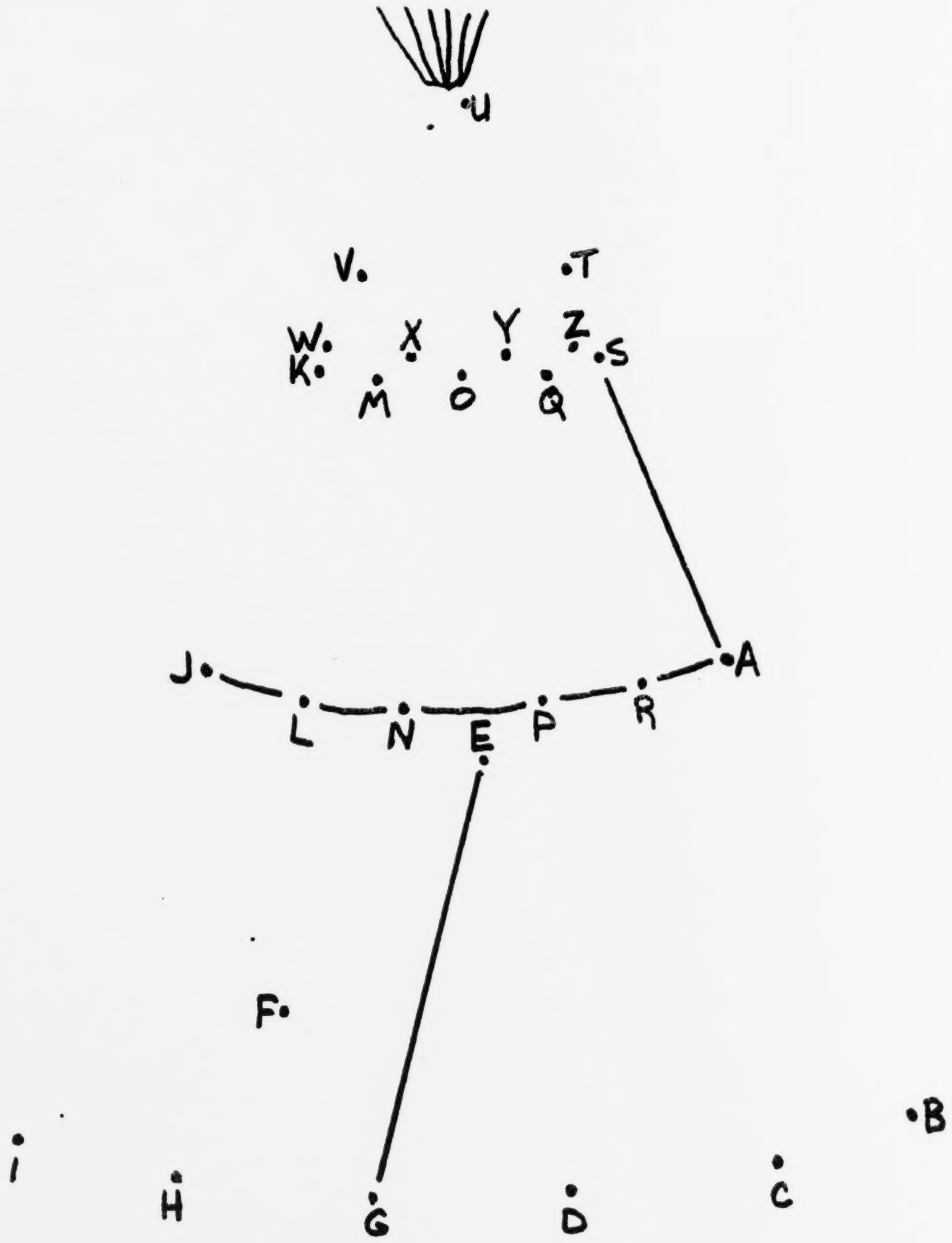


Directions: Letter recognition exercises.

11.

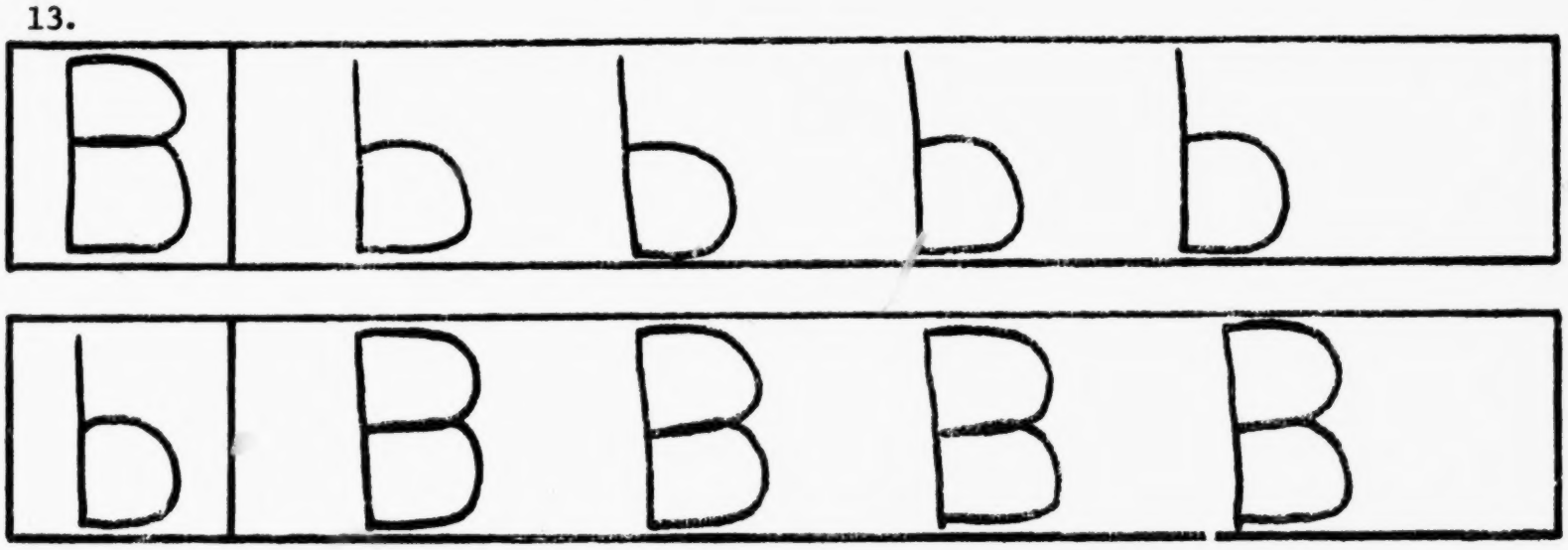
Directions: Finger writing for letter recognition and discrimination.

12.



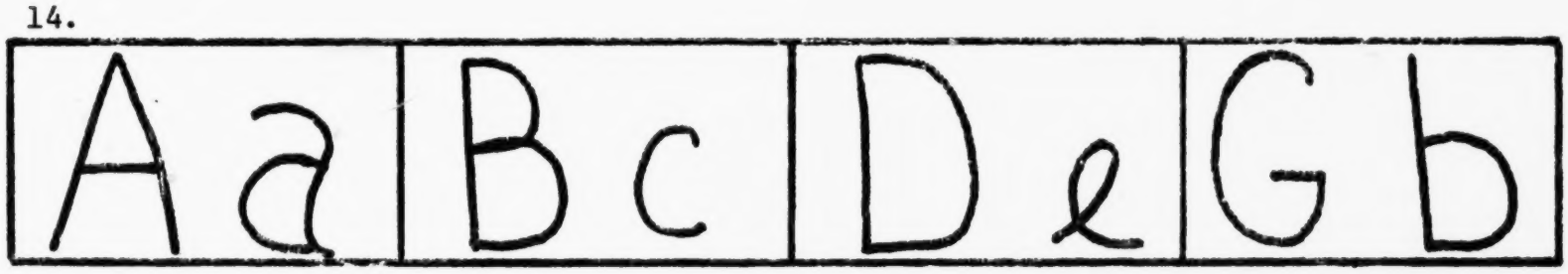
Directions: Connect letters in order of sequence.

13.



Directions: Capital and lower case letters with alternating examples.
Detecting the difference in upper and lower case letters.

14.

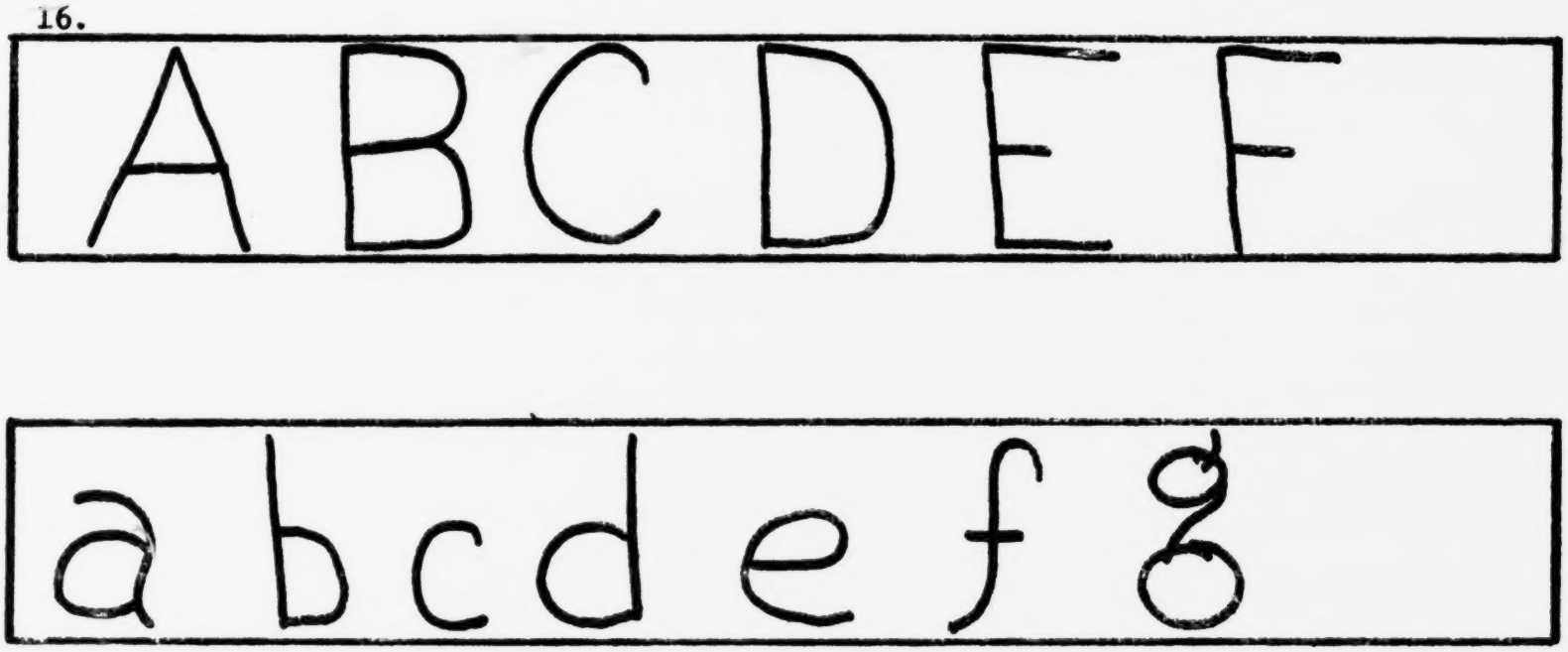


Directions: Circle the samples of capital and lower case letters of the same letters.

15.

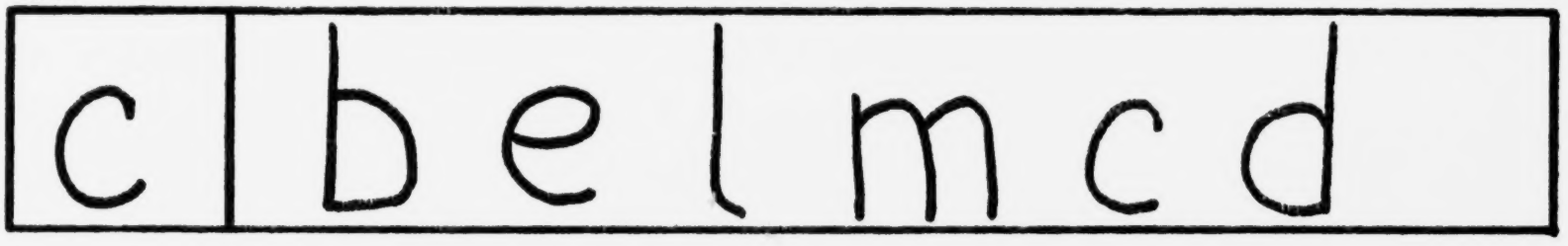
Directions: Trace lower case letters.

16.



Directions: Review capital and lower case letters.

17.



Directions: Review tracing of lower case letters.

1. bag	8. got
2. box	9. ran
3. mat	10. hem
4. mop	11. pal
5. let	12. the
6. hip	13. rag
7. ego	14. win

Directions: Circle test on letter recognitior and discrimination using words.

Circle 1.a; 2.b; 3.m; 4.p; etc.

SAMPLES OF SEAT WORK (Teacher Constructed)

Pat	fat	mat	hat	sat
P_t	fa__	__at	h_t	_at
_at	f_t	m_t	ha_	s_t
P__	_at	m__	__t	sat

BEGINNING READING (DECODING) THROUGH LINGUISTICS
Level I[1] - 16 hrs.

PROCEDURES FOR TEACHING READING	SKILLS DEVELOPMENT
1. Present the first word of the pattern a. Write it on the chalkboard or acetate sheet for overhead projector. b. Pronounce the word. Spell the word pointing to each individual letter. c. Use the word in a sentence. d. Ask student to use the word in a sentence. e. Ask student to say and spell the word. f. Point to each letter as the word is spelled. g. Be sure that students see the word when they read and spell it.	1. Recognizing letters of the alphabet. 2. Left to right progression. 3. Visual discriminations (likenesses and differences). 4. Auditory discrimination (sound of letters). 5. Recognizing word patterns. 6. Learning sight words. 7. Learning to spell simple words. 8. Practicing writing (letters - words). 9. Comprehension. 10. Decoding words. 11. Reading words and sentences. 12. Speaking. 13. Recognizing sentences and punctuation (Grammatical mechanics of the language). 14. Silent reading. 15. Apostrophes. 16. Possessive nouns

Word Patterns	Possible Words	Sight Words to be Introduced
at	cat, fat, pat, mat, sat, bat, rat, at	* Sight words, since they do not follow the patterns of the language, should be presented as total words and should not be spelled out:
an	can, ran, fan, pan, van.	is look
ap	lap, cap, map, nap, tap	a to
an's	Jan's, Dan's, etc.	the be
ad	dad, had, mad, bad, sad, fad, lad, pad	on and
ad's	Dad's	not I
ag	bag, rag, tag, bag, lag	* Pace work on a gradual developmental manner so that the student learns well what he attempts.
ats	bats, cats, etc.	
aps	maps, raps, taps	
ags	tags, lags, nags	
am	dam, ham, etc.	

Samples of Work to be Done -------

* Since material for reading at the adult interest level is limited, the teacher, utilizing her own creativity and that of her students, should construct material challenging and interesting to students from patterns and sight words introduced at any given lesson.
* All material constructed should be sequential and reinforcing in nature. Learned patterns should be reinforced in subsequent lessons constructed for further reinforcement.
* Teachers should be sure that each pattern is mastered before another pattern is attempted.
* Quality of learning, rather than quantity of work, should always be the aim.
* From patterns introduced, construct words and build into sentences or paragraphs of interest to adults.

Sample Pattern: <u>At</u>

Substitution of initial consonant: c, f, n, p, m, s, h, r, b.

Sight words - is, a, the, on, not, look

Pat

(comprehension)

How does Pat look? Pat is fat.

On what did Pat sit? Pat sat on a mat.

Where is the hat? The hat is on a mat.

<u>Teach the following skills</u>:

1. Title of the story.
2. Capitalization of proper nouns.
3. Vocabulary building
4. Capitalization of initial words in a sentence.
5. Punctuation (period)
6. Writing sentences
7. Comprehension of what was read.
8. Recognition of sight words.

Pat is _____ (fat, cat)

Pat _____ on a mat. (hat, sat)

LINGUISTIC TECHNIQUES FOR TEACHING READING

* 16 hrs. of instruction — Level I[2]

* Teaching Procedures are the same as Level I[1]

PATTERNS	SIGHT WORDS	SKILLS REINFORCED FROM LEVEL I[1]	SKILLS TO BE DEVELOPED I[2]
it its it's in into ins ix id ids im ip ips ig igs un uns ut uts up ups ug ugs us ud uds um ubs	for of took she said got me have your with little	Continue to stress: 1. letter recognition 2. left to right progression 3. auditory discrimination 4. review of word patterns introduced at Level I[1] 5. visual discrimination 6. review of sight words learned at Level I[1] 7. spelling of words 8. writing letters and words 9. comprehension 10. decoding words (substitution of initial consonant) 11. word and sentence reading 12. speaking 13. sentence structure, recognition and punctuation 14. silent reading 15. the apostrophe 16. possessive nouns	1. Use of comma 2. Contractions (Reusage and reading) 3. Question mark (Usage) 4. Compound words (into) 5. Quotation marks (Usage) 6. Exclamation marks (Usage) 7. Plural nouns 8. Use of plural verbs 9. Personal pronouns 10. Analyzing sentences in sequence from a story 11. Drawing conclusions 12. Word recognition

TYPES OF SEAT WORK (TEACHER CONSTRUCTED)

1. Completing sentences - ex. Dan sat on a (mat).
2. Determining if a statement is true or false from story read. Ex. Dan sat on a tub. F T
3. Rearranging events in sequence - (Scramble sentences of a paragraph and ask students to rearrange in sequence. This is good practice for reading, comprehension, writing, spelling, and sentence structure.)
4. Comprehending sentences (Ask students to select the sentence that makes most sense from two given sentences.)
5. Vocabulary testing (Write several words in pairs. Read one of each pair while students underline or circle the word read by the teacher.)
6. Drawing conclusions (Ask students to read a paragraph and choose answer from several given.)

LINGUISTIC TECHNIQUES TO TEACHING READING

Level I^3

* Teaching procedures - the same as for Levels I^1 and I^2

PATTERNS		DIGRAPHS INTRODUCED	SIGHT WORDS	SKILLS REINFORCED
ot	ots	th (that, than, them, then, this, thin, this)	mother	Continue to stress
op	ops		you	all skills developed
ox	et	Initial position	looked	at Levels I^1, I^2.
ets	en		good	
ed	eds	ch (chin, chick, etc.)	wood	
egs	ell	Final position	can't	
ells	ill		went	
iss	ess	ch (inch, punch, etc.)	are	
ack	acks		no	
eck	ecks		so	
ick	icks		go	
ock	ocks		horse	
uck	ucks		was	
			shy	
			Dr.	

SKILLS TO BE DEVELOPED - LEVEL I^3	SEAT WORK (TEACHER CONSTRUCTED)
1. Introduction of initial and final position of digraphs - (ch, th) to form new words. 2. Abbreviations - Dr., Mr., Mrs. 3. Past tense of verbs - fix - fixed cook - cooked	I. Continuation of similar work done in Levels I^1, I^2. A. Completing sentences. B. Determining if a statement is true or false. C. Rearranging events in sequence. D. Comprehending sentences. E. Vocabulary testing. F. Drawing conclusion. II. Completing a story. A. Develop creativity B. Practice writing from a simple introduction which may lead to paragraph writing. 1. ex. Dad and Tom went _ _ _ _ _ _.

LINGUISTIC TECHNIQUES FOR TEACHING READING

Level II[1]

* Teaching procedures for Level II[1] are the same as Levels I[1], I[2], I[3].

PATTERNS			REINFORCE DIGRAPHS	INTRODUCE DIGRAPHS		SIGHT WORDS
ip	unk	amp	th - initial position	sh		or
ut	ank	ock	ch - " "			from
ed	ast	ish		INTRODUCE BLENDS		Mr.
ust	ash	ist		pl	cr	school
ang	est	ush		bl	fr	room
ong	ask	ent		cl	dr	when
ing	esk	em		sl	br	here
ung	isk	ep		sp	tr	they
end	ift	am		st		Mrs.
and	eft	ab		sk		who
ond	ib	ent		sw		home
ept	isp	ant		tw		grandfather
elp	og	unt				very
eld	ink	elt				made
ilk	unk	ump				like
umps						day
						play

SKILLS TO BE DEVELOPED	TYPES OF DRILLS -- (TEACHER CONSTRUCTED)
1. Continue to stress skills developed at Levels I^1, I^2, I^3. 2. Introduce the inflectional suffix - <u>ing</u>. 3. Develop the awareness of doubling the final consonant before adding a suffix in such words as hum - humming, etc. 4. Develop the awareness that in most words a suffix may be added without doubling the final consonant. Ex. fix - fixing. 5. Introduction of blends to word patterns to make new words. Ex. ack - black.	1. Continue types of exercises developed at Level I^1, I^2, I^3. a. Completing sentences. b. Determining if a statement is true or false. c. Rearranging events in sequence. d. Comprehending sentences. e. Vocabulary testing. f. Drawing conclusions. g. Completing a story 2. Choosing correct word (two or more words) to complete a sentence. 3. Choosing correct words for definitions. Ex. It has things to buy. <u>(shop)</u> (Path, cap, horse, bell, shop, gun) 4. Rhyming words (Completion) Ex. Did the man wish to eat a <u>fish?</u> 5. Classifying phrases Ex. Things which belong at home[1].

SKILLS TO BE DEVELOPED	TYPES OF DRILLS -- (TEACHER CONSTRUCTED)
Notation: As a student progresses in the program, exercises should gradually become more difficult and longer	1. a stove 2. a horse 3. a bear 4. a store

LINGUISTIC TECHNIQUES FOR TEACHING READING
Level II[2]

* Teaching procedures are the same as Levels I[1], I[2], I[3], II[1]

PATTERNS				DIGRAPHS TO REINFORCE	BLENDS TO REINFORCE		BLENDS TO TEACH
ade	ute	eed	ing	th - initial position	pl	cr	str
ate	ube	eet	ed	ch - initial - final	bl	fr	pr
ame	une	eel	ar	positions	cl	dr	sn
ide	ake	eep	ard	sh - initial position	sl	br	thr
ime	afe	eek	ark		sp	tr	sm
ale	ive	een	arm		st		gr
aste	ose	eem	art		sk		gl
ave	ail	eer	all		siv		
ide	aid	eens	ight				
ipe	ain	eat	avad				DIGRAPH TO TEACH
ite	air	ea	oaf				qu
ife	ait	ead	oat				
ope		eal	oap				
ote		ear	oak				
oke		eak	oast				
oken		each	east				
one		eacher	eap				
ove		eaf					

SIGHT WORDS	SKILLS TO BE DEVELOPED	DRILL (TEACHER CONSTRUCTED)
want wanted children money zoo girl off ago boy one tooth yard front water bird giant cross across	1. Continue to stress skills developed at Levels I^1, I^2, I^3, II^1. 2. Adding inflectional ending "ing" to words ending in silent "e" - bake - baking, etc. 3. Adding inflectional ending "ed" to words ending in silent "e" - tape - taped. 4. Verb tenses break - broke - broken	1. Continue types of exercises developed at Level I^1, I^2, I^3, II^1. 2. Read a complete story and draw conclusions.

LINGUISTIC TECHNIQUES FOR TEACHING READING

Level II[3]

* Teaching procedures are the same as Levels I^1, I^2, I^3, II^1, II^2

PATTERNS				REINFORCE DIGRAPHS	REINFORCE BLENDS	
ent	ge	ouse	ief	th	pl	sk
cle	age	ounce	ieve	ch	bl	sw
ice	ger	ive	owl	sh	cl	tw
ace	aw	ove	alf	qu	sl	cr
uce	oo	ome	oil		pl	fr
dle	eight	one	oin		st	sr
ple	per	once	oy		br	tr
gle	ird	ead	ought		str	gr
ble	alk	eath	aught		pr	gl
fle	ow	orr	ough		thr	sm
tle	ew	ere	ould			
dle	out	old	ue			
ple	oud	earn				
gle	ourd	ind				
ple	ouch	ost				
		oot				
		ood				
		oove				
		oof				

Sight Words		Skills to be Developed	Drills (Teacher Constructed)
old	buy	1. Continue to stress skills developed at Levels I^1, I^2, I^3, II^1, II^2.	1. Continue types of exercises developed at Levels I^1, I^2, I^3, II^1, II^2.
circus	new	2. Develop awareness of syllabication (monosyllabic).	2. Simple outlining.
clown	nothing	3. Develop awareness of different sounds of consonants. Example C, S, K.	3. Simple graph reading.
down	two	4. Develop awareness of consonant irregularities. Example KN, WR, etc.	4. Map reading.
work	women	5. Develop awareness of y sound at the end of a word. e, i.	
build	young	6. Develop awareness of prefixes, suffixes and rootwords.	
built	father		
baby	been		
carry	what		
above	four		
any	eye		
many	son		
were	cough		
their	woman		
does	through		
key			

CONCLUSION

The consensus of the authors was a need exists for a simpler technique for teaching adults to read. Various approaches to teaching reading were discussed and evaluated. The authors decided that there is no "pure" method for teaching reading and that a realistic approach should be attempted. The Linguistic Technique was chosen since language is structured into patterns. It was felt that such a technique would be more effective, because in this technique the development of reading is gradual with continuous reinforcement and encompasses the entire language arts program-listening, speaking, reading, and writing.

The limited availability of high interest material at the adult level demands that the teacher be creative to construct material necessary and involve adult students in contributing information in areas of their interests and needs.

MATERIALS

Teacher Constructed

1. Alphabet Cards
   a. Student Construction (Purpose: To teach letter writing and reinforce alphabet learning)
   b. Teacher construction
2. Flash Cards
   a. Word patterns
   b. Whole patterns
3. Experience charts
4. Sentence Strips
   a. Vocabulary building
   b. Sentence construction
   c. Paragraphs
      1) Develop sequence of events
   d. Grammar development
      1) Sentence structure
      2) Punctuation
5. Tests
   a. Vocabulary
   b. Comprehension
   c. True, False

Commercial

1. My Alphabet Book, Charles E. Merrill Publishing Co., Columbus, Ohio 43216
2. A B C Book Steck-Vaughn, Austin, Texas
3. Audio Visual material
   a. Tape recorder
   b. Overhead projector
   c. Opaque projector
   d. Filmstrip projector
   e. Tapes
   f. Pictures
   g. Films

Reading Materials

BOOK TITLE	LEVEL	PUBLISHING COMPANY	ADDRESS
1. A B C Book	I	Steck and Vaughn	Austin, Texas
2. My Alphabet Book	I	Charles E. Merrill	Columbus, Ohio
3. Teaching Adults to Read (Mott Basic Program)	I - IV	Allied Education Council	5533 Woodlawn Avenue Chicago, Illinois
4. Programmed Reading for Adults (M. W. Sullivan)	I - III	Behavioral Research Laboratories	Box 577 Palo Alto, California
5. E. D. L. Work Clues Books: RA, AA, BA, CA, DA, FA, GL	I - IV	Educational Development Laboratories	284 Pulaski Road Huntington, New York
6. Programmed Reading	III - IV	Globe Book Company	175 5th Avenue New York, New York
7. Programmed Reading for Adults	I - II	McGraw - Hill Publishing Company	330 W. 42nd Street New York, New York
8. Merrill Linguistic Readers	I	Charles E. Merrill, Inc.	1300 Alum Creek Drive Columbus, Ohio
9. Lopez Family	I	Steck and Vaughn	Austin, Texas

BOOK TITLE	LEVEL	PUBLISHING COMPANY	ADDRESS
10. You Can Read Better: An Adult Approach to Better Reading	I II	Cenco Educational Aids Educational Reading Aids Corp.	Carle Place East Long Island, N. Y.
11. English 900, A Basic Course	I - III	English Language Services, Inc.	1620 Belmont, N. W. Washington, D. C.
12. Talking It Over	I	Follett Publishing Company	1010 W. Washington Blvd. Chicago, Illinois
13. The Reading For a Purpose Program	I - II	Follett Publishing Company	1010 W. Washing Blvd. Chicago, Illinois
14. Reading for a Viewpoint	II - III	Follett Publishing Company	1010 W. Washington Blvd. Chicago, Illinois
15. Vocational Reading Series	IV	Follett Publishing Company	1010 W. Washington Blvd. Chicago, Illinois
16. English Lessons for Adults	I - II	Harcourt, Brace and World, Inc.	757 Third Avenue New York, New York
17. Living Your English	III	D. C. Health and Company	285 Columbus Avenue Boston, Massachusetts
18. The Thomas Live Here	II - III	Holt, Rinehart and Winston, Inc.	383 Madison Avenue. New York, New York

BOOK TITLE	LEVEL	PUBLISHING COMPANY	ADDRESS
19. Learning the English Language	I - II	Houghton - Mifflin Company	53 W. 43rd Street New York, New York
20. Reading for Meaning	II - IV	J. B. Lippincott Company	East Washington Square Philadelphia, Pa.
21. Reader's Digest Adult Readers (Books 1-6)	I - III	Reader's Digest Service, Inc. Educational Division	Pleasantville, N. Y.
22. How to Read Better (Books 1-2)	I	Steck - Vaughn Company	Austin, Texas

PART II

COMMUNICATION

Procedures for Developing

Communication Skills, Levels I, II, and III

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PREFACE

Communication involves listening, speaking, reading and writing skills. This outline contains a sequence of skills and tasks to be used as a base curriculum for Level I through Level III. It should be adopted to local student needs by using a variety of materials and techniques. In effect, each teacher writes his own curriculum; rather the curriculum develops from the life needs of his particular students.

COMMUNICATION
Level I - Grades 1.0 - 3.9

I. Placement

A. Informal evaluation

1. Determine need and interest of student (driver's license, GED, job promotion, citizenship)

2. Determine approximate academic ability of student with questions and answers.

B. Writing samples

1. Paragraph about himself (analyze grammar, spelling, and unity)

2. Check enrollment application for accuracy

C. Wide Range Achievement Test or other standardized placement test

D. Brief Diagnostic Analysis[1]

E. Vocabulary Test[2]

F. Reading Evaluation

References: [1]Informal Diagnostic Analysis; Director, Center for Educational Development, Northeastern University, Boston, Massachusetts.

[2]Operation Alphabet, part 2; Noble & Noble Publishers, Inc.

[3]Bett's Reading Levels; Director, Center for Educational Development, Northeastern University, Boston,,Massachusetts.

II. Listening: Each ABE student should be able to:

A. Follow directions given by teacher

1. Taking required test

2. Turning in papers

3. Using audio-visual aids

B. Learn 500 - 1,000 basic vocabulary words[1]

1. Student should build new words by changing beginning sounds (should - would - could)

2. Should be able to build new words by adding prefixes and suffixes

C. Identify similar sounds - underline words that begin like mother and end like walked (moon, talked)

Reference: [1]Everyday English and Basic Word List for Adults, Nobles Adult Educational Series by Angelica W. Cass. (Adjust to meet local needs)

Dolch Word List

III. Speaking: Each ABE student should be able to:

A. Pronounce symbols and words[1]

1. Alphabet, numerals, punctuation
2. At least 50 words at random from basic 500 words list

B. Communicate in question-answer situation and in an informal conversation

1. Familiar questions (job, church, family)
2. Respond to workbook questions[2]
3. Talk about family living
4. Discuss an unusual experience

C. Use the telephone

1. For information in emergencies (police, fire, ambulance)
2. Pleasure (friends)
3. For long distance (friends, relatives)

Reference: [1]Webster's Dictionary

Building Word Power by John C. Adams, Steck-Vaughn Co., Austin, Texas

[2]Mott Series 300

Adult Reader by M. S. Robertson, Steck-Vaughn Co., Austin, Texas

IV. Reading: Each ABE student should be able to:

A. Progress through the basic reading program outlined in this guide

B. Read experience charts - original sentences made by students and recorded by teacher

C. Read signs encountered in everyday experience[1]

1. Traffic - Stop, Yield

2. Directional - Exit, Enter, Ladies, Gentlemen

D. Read and comprehend simple paragraphs and give a feed-back of this material

E. Use dictionary

1. Find word

2. Check spelling, meaning, and pronunciation

Reference: [1]Drivers Handbook

Everyday English and Basic Word List for Adults, pg. 46

V. Writing: Each ABE student should be able to:

A. Form letters and symbols[1]

B. Spell basic sight vocabulary words and proof-read his writing

C. Write correct sentences

1. Interrogative and declarative sentences

2. Simple sentences

References: [1]Imaginary Line Handwriting, Steck-Vaughn Co., Austin, Texas

COMMUNICATION
Level II - Grades 4.0 - 7.9

1. Placement

   A. Informal evaluation

      1. Determine need and interest of student (driver's license, GED, job promotion, citizenship)

      2. Determine approximate intelligence of student with questions and answers.

   B. Writing samples

      1. Paragraph about himself (analyze grammar, spelling and unity)

      2. Check enrollment application for accuracy

   C. Wide Range Achievement Test or any other standardized test

   D. Brief Diagnostic Analysis[1]

   E. Vocabulary Test[2]

   F. Reading evaluation

Reference: 1 Informal Diagnostic Analysis; Director, Center for Educational Development, Northeastern University, Boston, Mass.

2 Operation Alphabet, Part 2; Noble & Noble Publishers, Inc.

3 Bett's Reading Levels; Director, Center for Educational Development, Northeastern University, Boston, Mass.

II. Listening: Each ABE student should be able to:

   A. Recognize correct pronunciation and usage

      1. Detect errors in pronunciation in his own speech and that of others.

      2. Listen to discriminate between fact and fancy.

   B. To know the importance of using context clues to determine meanings an speakers point of view.

III. Speaking: Each ABE student should be able to:

   A. Contribute to group discussions

      1. On political issues (local, national)

      2. Community living (fund drives, clean-up days)

B. Give Oral reports

1. Historical figures or events

2. Installment buying

C. Develop his speaking vocabulary

1. Use explicit and definite words

2. Give accurate descriptions and explanations

D. Tell an interesting anecdote

IV. Reading: Each ABE student should be able to:

A. Read instructions to meet a specific need

1. Cooking

2. Installing appliances

B. Use dictionary

1. Locate words

2. Determine correct usage and pronunciation of words

3. Check spelling

C. Interpret maps and graphs

1. Road maps

2. Graphs found in news papers

3. Cost of living index

D. Use reference materials and directories

1. Locate material in encyclopedia

2. Almanac

3. Appendix of book

4. Table of Contents

5. Telephone directories

6. Floor directories in large buildings

V. Writing: Each ABE student should be able to:

A. Write legibly either cursive or manuscript

B. Write letters

1. Friendly

2. Social (thank you, notes of acceptance)

3. Invitations

C. Keep records

1. Financial (installment, bank balance, income tax, insurance)

2. Health and Family (immunizations, births, marriages)

D. Make orders and requests for needed services, merchandise and information

1. For electric company to check faulty equipment

2. Order coat from catalog

3. Request a pamphlet, on how to control flies and rats, from the Agriculture Department.

E. Fill out forms

1. Job applications

2. Insurance

3. Income Tax - short form

COMMUNICATION
Level III - Grades 8.0 - 12

I. Placement

A. Informal evaluation

1. Determine need and interest of student (driver's license. GED, job promotion, citizenship)

2. Determine approximate intelligence of student with questions and answers.

B. Writing samples

1. Paragraph about himself (analyze grammar, spelling, and unity`

2. Check enrollment application for accuracy.

C. Wide Range Achievement Test or any other standardized test.

D. Brief diagnostic Analysis[1]

E. Vocabulary Test[2]

F. Reading Evaluation[3]

Reference: 1. Informal Diagnostic Analysis; Director, Center for Educational Development, Northeastern University, Boston, Mass.

2. Operation Alphabet Part 2; Noble & Noble Publishers, Inc.

3. Bett's Reading Levels; Director, Center for Educational Development, Northeastern University, Boston, Mass.

II. Listening: Each ABE student should be able to:

A. Take notes from lectures

B. Listen attentively

C. Listen for correct usage

D. Listen critically

III. Speaking: Each ABE student should be able to:

A. Lead discussions

1. Pertaining to current events (local and national events, national crisis)

2. Academics (history, science)

B. Speak with clarity

C. Develop and present an organized report

1. Book review

2. Essay

IV. Reading: Each ABE student should be able to:

A. Read on an advanced level[1]

1. Trade and professional journals

2. Novels and Biographies

3. Periodicals

4. Essays

5. Poetry

B. Read critically for:

1. Symbolic meanings

2. Literal content

3. Inferences

4. Interpretation

5. Main ideas

6. Style

Reference: Popular Mechanics

Cosmetology

To Kill a Mockingbird, Faulkner

Grapes of Wrath, Steinbeck

Farewell to Arms, Hemingw

Vanity Fair, Thackery

Reader's Digest

News Week

7

Emerson's Essays

Rhime of the Ancient Mariner

V. Writing: Each ABE student should be able to:

A. Write business letters

1. Layout - (block and indented styles)

2. Content - (clear, simple style)

B. Write complex and compound sentences

C. Outlining (sentence, word)

D. Write critically

1. Paraphrase (essays, speeches)

2. Book Reviews

3. Compare and contrast (differences and likeness)

4. Evaluate

E. Write research papers on:

1. Biographies

2. Controversial issues (race discrimination)

3. Sociological theme (population growth, morality of community, survey)

CONCLUSION

Tasks should be selected and students should be grouped on the basis of need and motivation as well as ability. The teacher assumes the role of learning specialist, diagnosing needs, and programming appropriate lessons.

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PART III

THE A B E STUDENT

AND

ARITHMETIC

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THE ABE STUDENT AND ARITHMETIC

A person who lacks performance in all or portions of the following skills shall be placed accordingly in one of the below outlined levels.

The teacher, in evaluating the pupils, should use caution not to over rate.

I. Placement

A. Tests

1. Oral

2. Written

a. formal

b. informal

B. Materials

1. Adult Basic Learning Examination

2. Science Research Associates

3. Wide Range Achievement Test

4. California Achievement Test

PREFACE

A basic introduction to mathematics applicable to the daily needs of the individual is essential to Adult Basic Education. The purpose of this section is to aid the teacher in providing the student with the opportunity to learn these math principles.

Mathematics for ABE has been divided to meet the needs on four levels. A special section has been added to meet the needs of advanced students.

LEVEL I

Skills to be Presented	Vocabulary	Samples	Techniques: Methods	Techniques: Materials
Recognizing Numbers (0 through 9)	Number Names, Symbols, Ones	(0, 1, 2, 3, ...9)	Counting Objects Number Line Using Audio-Visual Materials Place Value	Chairs, people, books, fingers, chalkboards, flannel boards, magnetic boards & Magnetic numbers, overhead projectors, filmstrips, sticks
Recognizing numbers (10 through 99)	Tens, greater than, number names	(10, 11, 12, ...99)		
Recognizing Numbers (100 through 999)	Hundreds, greater than, less than, number names	(100, 101, 102, ...999)		
Addition facts adding one-digit numbers including zero	Sum Addend Add Total Plus Symbol +	5 + 3 = 8 8 5 +4 +0 6 + 0 = 6 12 5 31 Addition Facts	Teacher Demonstration drill	flash cards charts worksheets filmstrips drill tapes records transparencies
Addition facts adding two-digit numbers	Carrying, place value, symbol +	24 +15 45 + 59 = 104 39		
Addition facts adding three-digit numbers		453 + 245 = 698 476 +265 741		
Addition facts adding more than two addends		32 20 5 57 467 + 62 + 49 = 578		

Subtraction facts subtracting one-digit numbers including zero	subtract, minus (-), difference, minuend, subtrahend, take away, inverse	9 6 - 3 = 3 -4 5 4 - 0 = 4	Teacher Demonstration drill	flash cards charts worksheets filmstrips drill tapes records transparencies
Subtraction facts subtracting two-digit numbers	Borrow	25 37 - 29 = 8 +14 11 29 - 20 = 9		
Subtraction facts subtracting three- digit numbers		796 604 458 -543 -498 -300 253 106 158		
Subtraction facts checking subtraction problems	Inverse	5 [illegible] 25 16 -3 +3 -16 + 9 2 5 9 25 check check 458 158 -300 +300 158 458 check		
Multiplication facts multiply by one digit numbers 1 - 9	product multiplier multiplicand times (x) symbol factors	Samples 2 x3 3 x 4 = 12 6	Teacher Demonstration drill 81 multiplication facts magic square	records transparencies flash cards worksheets filmstrips drill tapes
Multiplication facts multiply 2 digit numbers 10 - 99	Multiple addition, place value, carry, (others same as above)	Samples 45 35 x12 x24 90 144 45 72 540 864	Teacher Demonstration drill	flash cards records charts worksheets transpar- filmstrips encies drill tapes

Multiplication facts by zero		3 x 0 = 0 24 24 x20 x20 20 x 0 = 0 00 480 48 480	Same as above	Same as above
Multiplication facts by one		3 x 1 = 3 36 x1 20 x 1 = 20 36	Same as above	Same as above
Division facts divide 1, 2, and 3 digit numbers by one digit numbers and checking (no remainders)	Dividend divisor Quotient Symbol (÷) (⟌) Inverse of multiplication	3⟌9 3 x3 9 check 5⟌125 25 x5 125 check 4⟌12 3 x4 12 check	Teacher Demonstration drill	flash cards charts worksheets filmstrips drill tapes records transparencies
Division facts Divide 2 and 3 digit numbers and checking (no remainders)		12⟌48 4 12 x4 48 check 125 ÷ 25 = 5 5 x 25 = 125 check		
Division facts divide into zero and checking	Dividend Divisor Quotient Division (÷) symbol inverse of multiplication	Any number divided into zero will give an answer of zero 4⟌0 0 x0 0 0 ÷ 12 = 0 0 x 12 = 0	Teacher Demonstration drill division facts	drill tapes flash cards worksheets film strips records transparencies

Division facts divide by zero		It is not advisable at this time to introduce a number divisible by zero because the answer is <u>undefined</u>	None available	None available

Although Tables of Measurement should be made available to the students, Measurement should not be formally introduced until Level II is readhed.

Teacher Should review Level I before beginning with Level II				
Skills to be Presented	Vocabulary	Techniques		
		Sample	Method	Material
Measure Linear	Inch - in. Mile - mi. Metric system Foot - ft. Rod - rd. Yard - yd. Ruler	The student should be able to change from one unit of measure to another within the same system	Teacher Demonstration Drill Reports	Ruler Transparencies Measuring tape Charts Maps Meter Rod Fabric
Measure Liquid	Ounce - oz. Pint - pt. Quart - qt. Gallon - gal. Metric system Barrel - bbl.	Same	Same	Containers Measuring cups Transparencies Ford Motor Co. Measurement Chart
Measure Weight	Ounce Pound - lb. Ton - T Peck - pk. Bushel - bu. Metric system	Same	Same	Balance Transparencies
Measure Time	Second - sec. Minute - min. Hour - hr. Day - d. Week - wk. Month - mo. year - yr. Decade - dec. Century - C	Same	Same	Clocks Calendars Worksheet showing Clockfaces Individual clock faces
Measure Temperature	Degrees ° Fahrenheit - F° Centigrade - C° Thermometer	Student should know the difference between the F° and C° and be able to read the thermometer	Teacher Demonstration and Student Participation	Thermometers 1. Clinical 2. Weather 3. Baking
Fractions Introduction of fractions	Numerator Denominator Fraction Line Reducing Fractions Lowest Terms	= 1/3 2/4 = 1/2	Teacher Presentation	chalkboard flannel board charts filmstrips money

Fractions Add facts of proper fractions (Answer less than one) denominators are common	Numerator Denominator Fraction Line Common Denominator	3/8 + 2/8 = 5/8 Add numerators only	Teacher Demonstration Student participation	Same
Add fraction facts Denominators are not common (answer less than one)		$\frac{5}{8} = \frac{5}{8}$ We cannot add fractions with unlike denominators. $+\frac{1}{4} = \frac{2}{8}$ $\frac{7}{8}$ The denominators must be changed to make like denominators.	Same	Posters Bulletin boards Overhead projector Transparencies
Subtraction facts of Fractions. Denominators are common.	Common denominator minus (-) symbol minuend subtrahend difference	$\frac{12}{16} - \frac{5}{16} = \frac{7}{16}$ $\frac{5}{9}$ $-\frac{4}{9}$ $\frac{1}{9}$	Teacher Demonstration Learning games Practical exercises	films filmstrips programmed materials
Subtraction Fraction facts Denominators are uncommon		$\frac{7}{10} = \frac{21}{30}$ $-\frac{1}{3} = \frac{10}{30}$ $\frac{11}{30}$	Same	Same
Subtraction of Improper Fractions	Borrowing	$12\frac{5}{8}$ $-6\frac{2}{8}$ $6\frac{3}{8}$ $5\frac{1}{4} = 5\frac{1}{4} = 4\frac{5}{4}$ $-2\frac{1}{2} = 2\frac{2}{4} = 2\frac{2}{4}$ $2\frac{3}{4}$	Same	Same

Multiplication of Proper Fraction Facts.	Numerator Denominator Product	Multiply Numerators for a new numerator and the denominator for a new denominator. Then simplify the answer if necessary. $2/3 \times \frac{1}{4} = \frac{1}{6}$	Practical Exercises Learning games Teacher Demonstration Drill Discover own technique	Programmed material flash cards chalkboard slides transparencies
Changing mixed Numbers to Improper fractions		Multiply the whole number by the denominator and add the numerator to the product for the numerator of the improper fraction and use the same denominator $4\ 5/6 = \frac{29}{6}$	Same	Same
Multiply Mixed Number Fraction Facts.	Mixed Number Improper Fraction	Change Mixed numbers to improper fractions multiply numerators for new numerator, and denominators for new denominator; Simplify if necessary $4\ 2/3 \times 9 = \frac{14}{3} \times \frac{9}{1} = \frac{126}{3} = 42$	Same	Same
Division Fraction Facts. Proper Fractions	Dividend Divisor Invert the Divisor	Dividend $\div$ Divisor $3/8 \div 3/4$ $3/8 \times \frac{4}{3} = \frac{12}{24} = \frac{1}{2}$ Invert the divisor and follow the multiplication procedure for the answer and reduce if necessary.	Same	Same

Division Facts. Whole numbers and Proper Fractions.		$4 \div \frac{4}{5}$ $\frac{4}{1} \times \frac{5}{4} = \frac{20}{4} = 5$ $\frac{4}{5} \div 4$ $\frac{4}{5} \times \frac{1}{4} = \frac{4}{20} = \frac{1}{5}$	Same	Same
Division Facts with mixed numbers		$4\frac{1}{2} \div 9 = \frac{9}{2} \times \frac{1}{9} = \frac{9}{18} = \frac{1}{2}$ $18 \div 4\frac{1}{2} = \frac{18}{1} \times \frac{2}{9} = \frac{36}{9} = 4$ $6\frac{1}{4} \div 5/8 = \frac{25}{4} \times \frac{8}{5} = \frac{200}{20} = 10$ $42\frac{1}{2} \div 2\frac{1}{2} = \frac{85}{2} \times \frac{2}{5} = \frac{170}{10} = 17$	Same	Same

Review and Continue with Skills Learned in Level I and Level II				
Skills to be Presented	Vocabulary	Techniques		
		Samples	Methods	Materials
Decimals Introduction	Decimal Point Tenths Hundredths Thousandths Mixed Numbers Digit And	36.954 36 is the whole number. (.) The decimal point separates the whole number 36 from the fraction 954 (.9) the first number on the right of the decimal point represents the tenths place. (.95) the second number on the right of the decimal represents the hundredths place. (.954) the third number on the right of the decimal point represents the thousandths place. The Numbers are read: 36.9 Thirty six and nine tenths. 36.95 Thirty six and ninety-five hundredths. 36.954 Thirty six and nine hundred fifty-four thousandths	Practice Reading, and Writing decimals Place value charts Number Lines, Using Audio-Visual materials. Counting objects Teacher demonstration.	chalkboard flannelboard charts money films filmstrip
Decimals Addition Facts	Alignment Place value plus (+) symbol	Keep Decimal Point in a straight line vertically and then follow the addition procedure. 12.4 3.95 414.324 430.674	Same	Decimal Equivalency Chart
Decimals Subtraction Facts	Minus (-) symbol Difference Take-away	Place the decimal points in a straight column, as in addition, then subtract as you would whole numbers. Annex zeros where necessary. 7.05 7.050 -3.135 = 3.135 3.915	Same	Same
Decimals Multiplication Facts		3.65 x3.2 730 1095 11.680 Counting from right to left 3.65 has two decimal places and 3.2 has one. This makes a total of three. In the answer, counting from right to left, count 3 spaces & place decimal point.	Same	Same

Decimal Division Facts		(1) $25\overline{)12.5}$ → $.5$ (2) $2.5\overline{)1250}$ → 50 (3) $.25\overline{)12.50}$ → 50 (1) The divisor must be a whole number before you can divide. If the divisor is a whole number, then move the decimal point from the dividend straight up to the quotient. (2) or (3) If the divisor is a decimal fraction, then make it a whole number by moving the decimal point <u>all</u> the way to the right of the divisor and moving it the same number of spaces in the dividend, then move it straight up to the quotient. (In case of a remainder, the teacher should show the student whether to record it or round-off the answer)	Same	Same
Consumer Problems	money bank economy budget consumer check checkstub salary installment deduction discount taxes insurance	This section deals with problems with which ABE students are confronted in everyday life.	Same	Same

Percentage (%)	rate principal time part interest discount commission	Percentage = Fractions = Decimals These can be converted from one to another 1/2 = .50 = 50% To change from a fraction to a decimal merely divide the denominator (2) into the numerator (1) to get the decimal $2\overline{)1.00}$ .50 (.50) To change from a decimal (.50) to a percent (%) just move the decimal point two spaces to the right and add the percent sign. .50 = 50% To go from percent to decimal to fraction merely reverse the processes.	Teacher Demonstration Drill	chalkboard money posters films transparencies
Graphs	Bar Graph Line Graph Picture Graph Circle Graph Axis	Graphs are information in picture form so that it will be easy to understand.	Teacher Demonstration Student Participation	newspaper clippings stock market reports posters films transparencies chalk board

Level IV

* A knowledge of Mathematics on the High School Level is required to teach Level IV

Teacher Should review Level I, II, & III before beginning with Level IV

Skills to be Presented	Vocabulary	Techniques		
		Samples	Method	Materials
Geometric Figures	area volume perimeter circumference			
Algebra	Equations			
Plane Geometry	Theorems Postulates Properties Angles			
Trigonometry	Logarithms			

CONCLUSION

Math is essential in the lives of ABE students. Math helps them cope with their everyday needs and makes them better participating persons in society.

The guide was prepared in a manner that emphasizes four main levels of instruction in mathematics:

Level I — Addition, Subtraction, Multiplication and Division of whole numbers. A limited introduction to fractions may be presented.

Level II — Review material of Level I four basic fundamentals.
Measurement (Linear, liquid, weight, time and temperature)
Four fundamentals of fractions (Addition, subtraction, multiplication and Division)

Level III — Decimals (Addition, Subtraction, Multiplication and Division)
Consumer Problems
Per Cent
Graphs

Upon completion of level three the students should have mastered the skills necessary to begin preparation for the G.E.D. examination in mathematics.

Level IV — Geometry - Plane
Algebra I & II
Trigonometry
Properties

SUGGESTED GAMES FOR ARITHMETIC

I. Number Recognition

A. Count objects in classroom

B. Place objects in groups and let students tell which group has more, or which has fewer objects

C. Play Bingo

D. Use sets with dots to tell more fewer.

E. Use telephone (telephone educational kit)

F. Make calendars

G. Write the missing numerals in missing series such as 18, 19, ..., 21

H. Use a graph system

II. For Teaching Addition

A. Play dominoes

B. Make a grocery list from the ad section of newspapers

C. Let students develop their own problems

D. Use Magic Squares to evaluate pupils' comprehension: Example of Magic Square Game.

MAGIC SQUARES

Pass out duplicated sheets and let students fill in the blanks. Example:

Master Copy

2	3	5
4	2	6
6	5	11

Student's Copy

2		5
	2	
		11

The sum of the first two horizontal squares in the third square, first row.

The sum of the second two horizontal squares is in the third square, second row.

The sum of each column is in the third row.

III. Subtraction

A. All activities suggested in the addition section are applicable to a subtraction problem as an inverse situation.

B. Use simple buying situations with money and change.

C. Make cross number puzzle.

IV. Multiplication

A. Group students into groups

B. Group objects

C. Cross number puzzles

D. Create problems to illustrate:

1. Road maps to find mileage

2. Rolling dice

V. Division

A. All activities suggested in the multiplication section are applicable to division problems as an inverse situation.

B. Grocery list (eg, 3 cans for $1.00 (How much does one can cost?)

VI. Linear Measurement

A. Measure length of room and other objects in room for comparison.

B. Drawing geometric figures.

VII. Liquid Measurement

A. Comparison game pints and quarts to gallons.

B. Use of recipes to develop comprehension of teaspoons and cups.

VIII. Weight Measurement

A. Weighing objects on spring scales and balance scales with weights.

B. Use estimating weights and then weigh for accuracy.

IX. Time

A. Have individual paper clock faces (commercial or drawn) for each student. Give different time to be indicated on clocks.

B. Make a calendar to keep daily hours worked by pupils.

X. Temperature Measurement

A. Keep periodical of daily temperatures.

B. Compare body temperature to an ice filled container or burning match.

XI. Fractions

A. Fold paper to represent halves, fourths, sixths, etc.

B. Cut up objects to show 1/2's, 1/4's, 3/4's, etc.

C. Use 4 quarters to show 1/4 as a fractional part of a dollar.

D. Use a foot ruler to show fractional parts of a foot.

XII. Decimals

A. Allow student to estimate their individual expenditures for one week and month.

B. Read from catalogs various prices of items and compile a mail order.

Teacher Suggestions

The teacher may show students how to use cancellation in multiplication of fractions.

Example: $\frac{\cancel{2}^{1}}{\cancel{3}_{1}} \times \frac{1}{\cancel{6}_{3}} = \frac{1}{3}$

Explain to students that any whole number has a denominator of (1) one.

Example: $4 = \frac{4}{1}$

Multiply three-digit numbers in Level II if students progress sufficiently with two-digit numbers

Example:

$$\begin{array}{r} 423 \\ \times 135 \\ \hline 2115 \\ 1269 \\ 423 \\ \hline 57{,}105 \end{array}$$

Be sure to emphasize the <u>and</u> in reading a whole number and a decimal fraction written together.

Example: 6.5

Six and five tenths

In the basic steps of all levels, the teacher should include word problems supplied by teacher and students.

Practice in <u>carrying</u> should be emphasized at all levels.

Dozen should be included as a measurement of quantity.

Example: one doz. = 12 things

Solve measurement problems with which students are familiar.

Teach rounding-off of whole numbers and decimals.

Example: 6,262 to nearest thousand is 6,000

6.262 to nearest tenth is 6.3

When dealing with money, be sure to use appropriate symbols.

Example: $.05 = 5¢ = 5 cents

$5 = $5.00 = 5 dollars

In Level IV the student should be given basic arithmetic, algebraic and geometric concepts, various units of measurement, use of tables, scale drawings and graphs, a knowledge of indirect measurement, approximate computation and estimation, mathematical aspects of insurance, taxation, installment buying, investment and statistics.

The teacher should not hesitate to let the director of his center know when help is needed.

Example: Materials to use: too simple or too difficult, etc.

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